HARDWARE ACCELERATOR FOR AN
OBJECT-ORIENTED PROGRAMMING LANGUAGE

THIS APPLICATION IS A CONTINUATION OF 08/965,540 FILED 11/06/1997 NOW US PATENT 6,330,659 AND CLAIMS BENEFIT OF 60/045,951 FILED 05/08/1997.

BACKGROUND OF THE INVENTION

TECHNICAL FIELD

5   The invention relates to object-oriented programming languages. More particularly, the invention relates to a hardware accelerator for an object-oriented programming language.

DESCRIPTION OF THE PRIOR ART

10   Object-oriented programming (OOP) is the name of a class of programming languages and techniques based on the concept of an "object". An object is a self-contained component which has a specific role in a program. OOP languages include C++, and the Java language, developed by Sun Microsystems, Inc. For the purposes of discussion only, the OOP language

15   described herein is Java.

An OOP defines classes of objects. A "class" is a prototype for an object, or a set of objects which share a common structure and behavior. An object, also referred to as an "instance", is a specific representation of a class. Each instance

20   of a class is distinguished by its particular attributes. These attributes are defined by "instance variables". The types and names of these instance variables are defined in the class. However, the values of the instance variables are set and changed in the object.

25   The behavior of a class determines how an instance of that class operates. The behavior of a class is determined by a set of routines, referred to as "methods", that is associated with the class. An operation on an object is performed using a method. Methods are common to all instances of a particular class.

30   Classes are hierarchically arranged. Each class in the hierarchy may have a class above it in the hierarchy, referred to as a "superclass", or a class below it, referred to as a "subclass". Subclasses "inherit" attributes and behavior from their superclasses. Thus, a subclass does not have to redefine a behavior that is